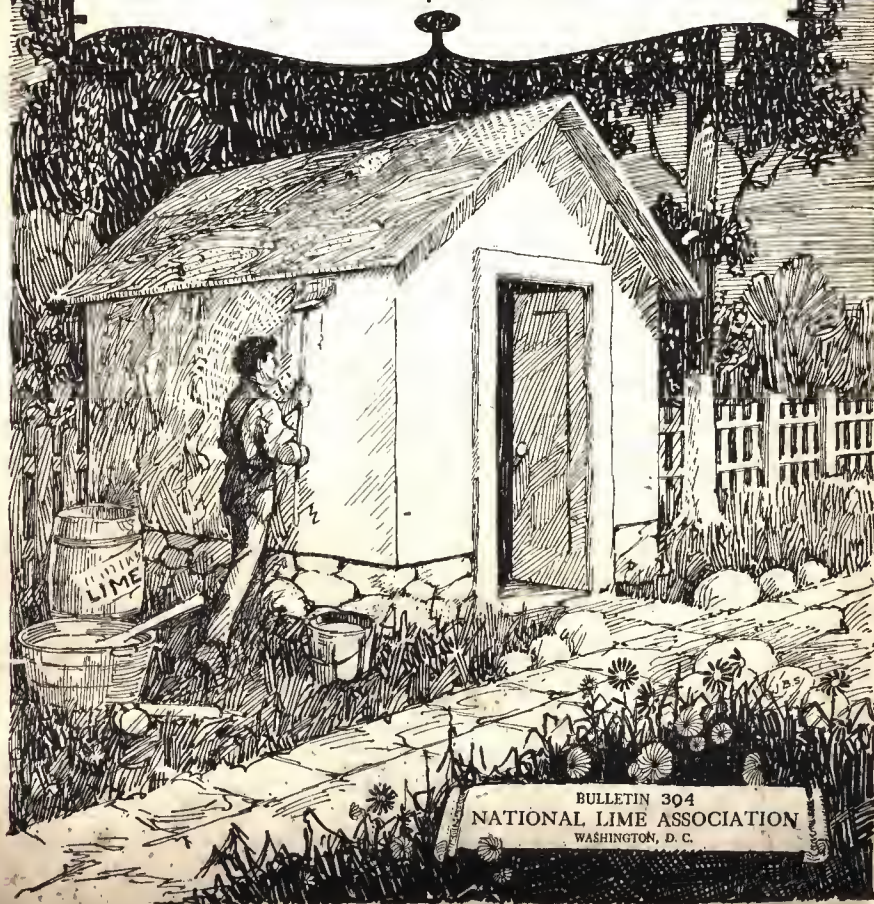


WHITEWASH AND COLD WATER PAINT

PREPARATION AND USE
MADE EASY



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Whitewash and Cold Water Paints

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In view of the high cost of oil paints and the still higher cost of neglecting exposed surfaces, the possibilities of whitewash are today worthy of special attention. Whitewash and cold water paints afford the cheapest protective coverings that can be obtained, and at the same time are not difficult either to make or to apply.

Further, whitewash affords a considerable degree of fire protection to frame structures, particularly on the farm, acting in part as an insulator and also as a filler, if the correct formula is used.

Whitewash on the tree trunk discourages vermin and prevents infestation by worms crawling upward from the ground.

Another use of whitewash that deserves special mention is its value in safeguarding the traveler on public highways. Many of our state highway departments have established the commendable practice of whitewashing large stones, tree trunks, telegraph poles, culvert walls, bridge approaches, and other large or prominent objects along the roadway. This white coating makes readily visible what might otherwise be obscured by features of the landscape and has undoubtedly prevented a large number of accidents.

Lime is one of the best of sweeteners and cleansers, and many who have made practical use of it assert that it has germicidal properties. Its application has a most sanitary effect in cellars, barns, pig pens, chicken houses, and similar structures.

The interior of the home can be made more sanitary and attractive by use of proper whitewash or cold water paint mixtures. These mixtures can be so prepared as not to rub off on the clothing, and will stand washing. There are various pigments or coloring mediums which may be added to the mixtures so that any desired color or shade may be obtained for interior decoration.

EQUIPMENT FOR WHITEWASHING

The equipment required for preparing and applying whitewash or cold water paint is of the simplest nature.

For mixing, there will be required a barrel or other fairly large watertight container and smaller vessels in which the several ingredients may be prepared, together with a couple of sticks or paddles for stirring.

For applying, one needs either a large whitewash, or calcimine, brush or a simple spraying device, a pail or a bucket, in which small quantities of the wash can be carried to the work, and a stick or paddle with which to stir the mixture from time to time. A ladder, or a pole to which the brush can be attached, will be needed for high work.

PREPARING THE SURFACE TO BE WASHED

The best results are obtained when the whitewashing or cold water painting is done in clear dry weather.

The surface to be treated should be perfectly dry and carefully cleaned of all dirt, scales, or other loose material by brushing well with a clean stiff brush or by first scraping and then brushing. The final results and increased life of the coating will more than repay for taking pains to have the surface in good condition. Special care should be taken to remove all loose material from surfaces that have been previously whitewashed, since, if the old whitewash is scaly, there will be no solid surface to which the new coating can adhere.

PREPARING INTERIOR WALLS AND CEILINGS

If the walls or ceilings have been previously whitewashed or calcimined, all of the old material should be washed off with a cloth or sponge and hot water. All grease, dirt, or old wall paper should be carefully removed, with a scraper if necessary, and the wall well washed. Nail holes and cracks should be filled with a mixture of four parts hydrated lime, or lime putty, and one part of plaster of paris with enough water to make a thick paste. This paste should be forced well into the holes and carefully smoothed off flush with the rest of the plaster by means of a putty knife or old case knife.

FORMULAS FOR WHITEWASH AND COLD WATER PAINTS

The following formulas have been selected from data prepared by the several authorities quoted:

Ordinary Whitewash

Place about ten pounds of quicklime into a vessel with two gallons of water. Cover the vessel with an old piece of carpet or burlap and let it stand for about an hour, stirring, *if necessary*, to prevent burning. At the end of that time the material will be ready to use.

If too little water is used, the lime will not be completely slaked or hydrated, and besides it will be burned. Burned or scorched lime is generally lumpy and transparent after enough water is added to bring it to brush consistency. Too much water, on the other hand, retards the slaking by lowering the heat.

A simpler way in which to prepare this whitewash is to mix ordinary commercial hydrated lime with water until the proper brush consistency is obtained. This whitewash will not stand the weather and will rub off rather easily.

Interior Whitewash

The following formula is recommended by insurance companies:

(1) Slake 62 pounds (1 bushel) of quick lime in 15 gallons of water. Keep the vessel covered until steam stops coming off. Stir occasionally to prevent scorching. Or, mix 80 pounds of commercial hydrated lime with water to a creamy consistency.

(2) Mix $2\frac{1}{2}$ pounds of rye flour thoroughly with $\frac{1}{2}$ gallon of cold water and then thin with 2 gallons of boiling water.

(3) Dissolve $2\frac{1}{2}$ pounds of common salt in $2\frac{1}{2}$ gallons of hot water.

Mix (2) and (3), then add (1), and stir until well mixed.

Exterior Weatherproof Whitewash

A. Recommended by W. G. Scott:

(1) Slake 62 pounds of quicklime (1 bushel) in 12 gallons of water; or mix 80 pounds of commercial hydrated lime with water to a creamlike consistency.

(2) Dissolve 2 pounds of common salt and 1 pound of sulphate of zinc in 2 gallons of boiling water.

(3) Provide 2 gallons of skimmed milk.

Pour (2) into (1), then add (3), and stir well.

B. Recommended by A. S. Jennings:

(1) Slake 8 pounds of quick lime in 2 gallons of hot water, or mix 10 pounds of commercial hydrated lime to a creamlike consistency with water.

(2) Dissolve 1 pound of carbonate of soda in $\frac{1}{4}$ gallon of boiling water.

(3) Soak in cold water for at least 8 hours $\frac{1}{4}$ pound of common glue and 1 pound of rice flour, and then thoroughly dissolve the glue mixture in $\frac{3}{4}$ gallon more water in a double boiler.

Mix (1) with (2); then add (3).

C. Recommended by A. S. Jennings:

(1) Slake 6 pounds of quicklime in $1\frac{1}{2}$ gallons of hot water or mix 8 pounds of commercial hydrated lime to a creamlike consistency with water.

(2) Dissolve 4 ounces of white resin in 12 fluid ounces of boiled linseed oil.

(3) Beat 6 pounds of whiting in 1 gallon of skimmed milk.

Mix (2) with (1) while hot; then add (3).

Simple Cold Water Paints

The following formulas are recommended by A. S. Jennings:

A. Mix 10 pounds hydrated lime, 1 pound casein, $1\frac{1}{2}$ ounces soda ash.

B. Mix 10 pounds hydrated lime, 1 pound casein, 1 ounce powdered soap, 2 ounces pulverized borax, 3 ounces dry carbonate of soda.

The ingredients in either of the foregoing formulas may be mixed dry and thinned to brush consistency with water when used.

C. (1) Soak $\frac{1}{2}$ pound of white glue at least four hours in 1 pint of water and then fully dissolve in 1 quart more water in a double boiler.

(2) Mix 16 pounds of hydrated lime thoroughly in 1 gallon of hot water.

Pour (1) into (2) and mix well.

D. (1) Mix 12 pounds of quicklime slaked in 3 gallons of hot water or 16 pounds of commercial hydrated lime to a creamlike consistency.

(2) Thin 3 pounds of silicate of soda (water glass) with 1 gallon of hot water; then stir in $1\frac{1}{2}$ pounds of casein and continue to stir until all is dissolved.

(3) Soak 2 pounds of strong white glue at least eight hours in $\frac{1}{2}$ gallon of cold water; then dissolve in $\frac{1}{2}$ gallon more water in a double boiler.

(4) Dissolve 2 pounds pulverized alum in $\frac{1}{2}$ gallon of hot water, to which is added 24 pounds of whiting.

Mix (1) and (2) well, then stir in (3), add (4), and again stir well.

Waterproof Cold Water Paint

The following formula is recommended by W. G. Scott:

Beat up 1 pound of casein with 1 pint of cold water; dilute with $\frac{3}{4}$ gallon of cold water and add 8 fluid ounces of ammonia. Stir this until a smooth jelly is formed and then add $\frac{1}{4}$ fluid ounce of formaldehyde as a preservative.

Stir in hydrated lime until a moderately thick paste is formed and then dilute with water, alcohol, turpentine, or linseed oil as may be desired until proper brush consistency is obtained.

Washable Cold Water Paint

A. S. Jennings is the authority for the following formula:

(1) Soak $\frac{1}{2}$ pound of white glue at least four hours in $\frac{1}{2}$ gallon of cold water; then completely dissolve by boiling in a double boiler.

(2) Dissolve $\frac{1}{4}$ pound of phosphate of soda in $\frac{1}{8}$ gallon of hot water.

(3) Mix 16 pounds of hydrated lime thoroughly in 1 gallon of hot water.

Pour (1) into (3). Stir well, then add (2), and stir again.

Lighthouse Whitewash

The following is the formula used by the United States Lighthouse Board:

Make a thin paste of 50 pounds of hydrated lime in boiling water (or slake $\frac{1}{2}$ bushel of quicklime in about $7\frac{1}{2}$ gallons of water, keeping the vessel well covered and stirring occasionally). Add 1 peck of common salt dissolved in hot water, 3 pounds of rice flour boiled to a thin paste and stirred in while hot, $\frac{1}{2}$ pound of Spanish whiting and 1 pound of clear glue thoroughly dissolved in boiling water.

Mix well in the order given and let the mixture stand for several days before using. Apply as hot as possible with a brush or spray.

COVERING CAPACITY OF A GALLON OF WHITEWASH OR COLD WATER PAINT

The following approximate figures will be of assistance in estimating the amount of materials required and the time needed to cover wood, brick, or plaster surfaces. It is, of course, to be understood that these figures are only approximate since there are many factors, such as condition of the mortar joints in brick work, roughness of lumber, and previous treatments which will have a very decided influence on the covering capacity of the wash or paint.

The foregoing whitewash and cold water paint will weigh, on an average, about 12 pounds to the gallon.

A gallon will have about the following covering capacity:

On wood, about 225 sq. ft. (10 ft. by 22½ ft.).

On brick, about 180 sq. ft. (10 ft. by 18 ft.).

On plaster, about 270 sq. ft. (about 8 ft. by 33 ft.).

A. S. Jennings is the authority for the statement that with a four-inch brush a man should cover the following surfaces per hour:

On rough walls, 22 square yards.

On smooth walls, 38 square yards.

On flat surfaces, 40 square yards

On ceilings, using a step ladder, 25 square yards.

TINTING

It is often desirable to tint the wash or paint and so relieve the dead white effect of pure whitewash. Any desired color or shade may be obtained by using the indicated pigments either singly or in combination. According to A. S. Jennings the following colors are fast in the presence of lime: most of the earth colors, such as vandyke, brown, red oxide, yellow ochre, siennas and umbers, venetian red, indian red, light red; also lithopone, zinc white, cadmium yellow, ultramarine, cobalt blue, chrome green, emerald green, and all black pigments. The above colors may be mixed as dry powders as bought.

When lamp black is used, it should first be mixed to a thick paste in a hot soft soap solution, so as to remove the grease.

FURTHER FACTS CONCERNING WHITEWASH

Whitewashes and cold water paints should always be *laid on*, and no attempt should be made to brush out as is done with oil paints.

The following facts, applicable to all formulas, are attributable to W. G. Scott:

Alum added to whitewash prevents its rubbing off.

Flour paste will also prevent rubbing off, but, when it is used, zinc sulphate must be added as a preservative.

Molasses causes lime to penetrate wood and plaster better. One pint of molasses to 5 gallons of whitewash is sufficient to use.

A solution of silicate of soda, or water glass, (35° Baume) makes a fireproof cement of whitewash when used in the proportion of one part of the solution to ten parts of whitewash.

By adding 1 pound of cheap bar soap dissolved in 1 gallon of boiling water to every 5 gallons of whitewash, a gloss similar to oil paint can be obtained.

REFERENCES

More complete information on the subject of whitewash and cold water paints may be found in the following books, which have been freely drawn on in the preparation of this bulletin:

White Paints and Painting Materials—W. G. Scott, C. E., Modern Painter Publishing Co., Chicago, Ill.

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REFERENCES

More complete information on the subject of whitewash and cold

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